



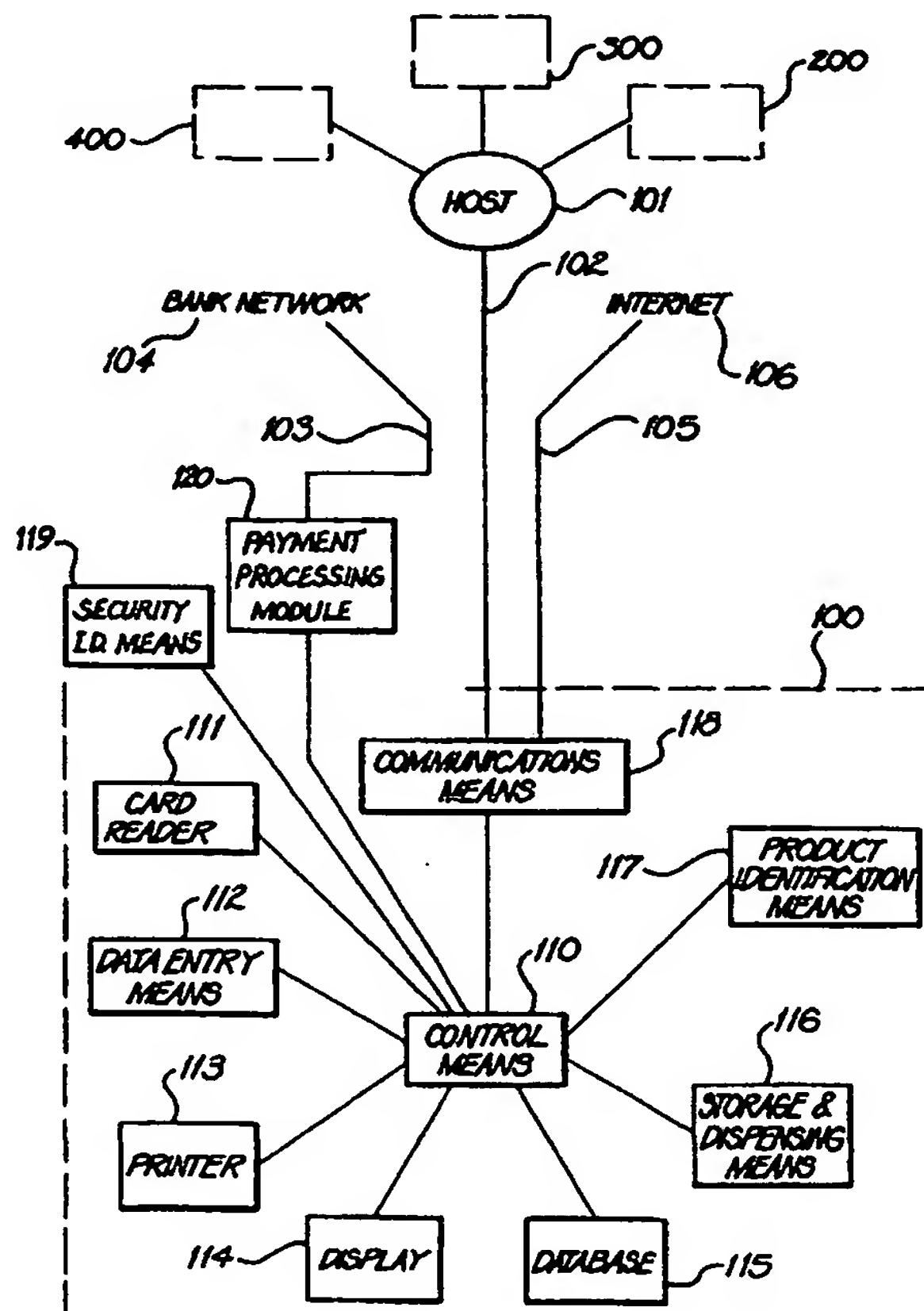
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(54) Title: REMOTE ELECTRONIC RETAILING

(57) Abstract

A product ordering apparatus (i.e. electronic retailing or vending machine) having controller, and input means for product selection, a security identification means (i.e. access card, credit card, driver's licence), and means for enabling or disabling delivery of products (goods) based on the security information (i.e. sufficient credit, age). Wherein further, the product ordering can be executed over a communications network such as the Internet. Payment processing being completed via separate secure payment network. The apparatus also providing for any duty or tax, dependant on the geographic region, to be automatically added to the sale price of the order.



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"REMOTE ELECTRONIC RETAILING"

The present invention relates generally to the automated provision of goods/services and, particularly, to electronic retailing and vending and the provision of goods/services at vending site and/or over a communications media.

The present applicants have developed electronic vending apparatus and also apparatus for facilitating electronic retailing over networks such as the Internet. Examples of prior systems are disclosed in applicant's International patent applications numbers PCT/AU93/00416 (WO94/04446), PCT/AU95/00154 (WO95/26004) and PCT/AU97/00058. The disclosures of these documents are incorporated herein by reference. PCT/AU93/00416 relates to a vending machine which facilitates recycling of complex articles, such as printer and toner cartridges. PCT/AU95/00154 discloses an electronic catalogue device and system for enabling remote ordering of goods/services. PCT/AU97/00058 discloses a system for the electronic remote ordering of goods/services comprising a network of electronic vending machines and/or PC's and/or dedicated ordering kiosks via which products (goods and/or services) can be electronically ordered remotely, and via which stocking of vending machines can be monitored and controlled.

It is known to retail goods and services over communications networks such as the Internet. For example, a user may purchase information services by logging onto the Internet and accessing a site from which services such as information, computer software, etc. can be purchased. There are a number of problems with this system.

Firstly, there are no or limited controls to control access to purchase of products over the Internet. For example, there are really no adequate controls preventing young people from accessing and obtaining information which is normally of a category restricted for minors. This is

also a problem with presently available vending machines. There is generally no adequate security which can prevent a minor purchasing alcohol, cigarettes, etc. if they are available via a vending device which is not placed in a
5 secure, manned location.

Another problem with purchasing of goods/services over a network such as the Internet, is the control of tax and duty payments. The Internet extends across state and national borders. It is very difficult for states and
10 governments to monitor goods/services which have been purchased over the Internet and provided from another, cross-border, location. It is therefore quite easy, generally, for tax and duty to be evaded.

Yet another problem relates to payment methods and
15 security of users accounts. For example, people are generally quite reluctant to give their credit card details on the Internet because the Internet is not secure and the credit card details may be fraudulently obtained and used for theft.

20 From a first aspect, the present invention provides a product ordering apparatus, including a control means for controlling ordering of products, input means by which a user may select product, and security identification means for obtaining security related information from a user and
25 means for enabling or disabling delivery of products depending on the security information.

The products obtainable may include goods and/or services.

30 The apparatus also preferably includes communication means for communicating with a communications network over which products may be obtained or ordered. The communications network may be the Internet, but may be any other form of network.

35 The type of security related information that the security identification means obtains can be any type, but in one embodiment the security identification means is

arranged to establish the age of a person using the apparatus and the means for enabling is arranged to determine whether the person is old enough to obtain the goods/services that they wish to order. Where the products
5 being ordered are security sensitive, such as passports, tickets, licenses or the like, the security identification means may need to establish the exact identity of the person. The security means in this case may require information such as a driver's license and PIN number and
10 other security information, in a similar way to the way a bank requires exact identity information.

Preferably, a sensing device is provided for reading a driver's license, identity card, bar code or other ID device which contains the required security information.

15 Alternatively, or in addition, the apparatus may have access to a database which contains information enabling verification of security information, such as age or other authorisation characteristics, once a user of the machine has been identified. In such a case the security
20 identification means may merely establish the identity of the person by reading a credit card for example or smartcard/PIN number combination. The database is then accessed to obtain further security information.

The ordering apparatus may, alternatively or
25 additionally to the communication means, also include a means for delivering goods on site such as described in the applicant's previous applications. The delivery of the goods on site will be controlled depending upon the security information, as with services, goods, information,
30 etc. ordered over the communications network.

In other words the apparatus may operate as a vending machine. The vending machine may be stand-alone, or may be connectable to a communications network over which goods/services can be ordered for delivery in addition to
35 the local vending operation.

The ordering apparatus may comprise an appropriately configured PC. Product ordered from the PC may be delivered later (or delivered on-line where it is on line deliverable).

5 As an alternative to the product being delivered later, it may be stored in a vending device and the PC user may be given the address of the vending device.

A security code or means may be provided to the user for access to the vending apparatus.

10 This may include a PIN code, for example, or the like. It may include a smartcard, magnetic stripe code or the like. The user can then go to the location where the product is held and use the security code to obtain the product.

15 The present invention further provides a product ordering apparatus, comprising a control means for controlling ordering of products, input means by which a user may select product, means for providing information on tax or duty applicable in the geographic location where the
20 product is located, and means for adjusting the sales price of products offered in accordance with the tax or duty information for that locality.

The ordering apparatus may comprise a combined ordering apparatus and vending machine, so that product may
25 be vended locally on site. Alternatively, the ordering apparatus may comprise an appropriately configured PC. The PC provides information on the locality of the product which is being ordered by the user. The user can then attend at that locality to obtain the product. The PC is
30 preferably connected to a network, which may be the Internet, but can be any type of network. Information on the location of products may be obtained over the network. Payment may also be effected over the network. For example, payment may be effected over the "Web". Where
35 payment is effected over the Web, via the PC, tax or duty is levied appropriately according to the location of the

product, on payment.

The product ordering apparatus may also include dedicated kiosk, which is also connectable to a communications network such as the Internet. Where the ordering apparatus includes combined ordering apparatus and vending device, the device may also be connected to a communications network (eg. Internet) and products available at other locations may be ordered from the ordering apparatus. Information on the locality of the product will be provided to the user and the tax and duty will be levied in accordance with that locality.

Even where goods are ordered over the Internet, therefore, across a state border or even worldwide, the appropriate tax or duty rate can be levied at the delivery location/apparatus. The means for enabling payment preferably comprises a card reader or the like for reading details of a credit card or bankcard. Preferably, payment is effected by way of a separate payment network, such as an EFT network or the like or e.g. via the Internet any set standard.

Alternatively, a means for payment may be provided at the delivery apparatus itself, i.e. at the location where the product is available. A person may be able to order and secure product by ordering at a remote ordering apparatus, and attend the location where the product is held and pay at that location. In this case, the delivery apparatus (which may be a combined ordering/vending apparatus) includes information on the appropriate tax or duty to be levied.

When the user orders the product and secures it before attending the locality where the product is, the user may be provided with security means, such as a PIN number. The user then attends at the device where the product is held and enters the PIN number or other security means to enable the product to be released to him. Payment can be effected either at the original ordering device (which may be a PC

connected to the Web, or a kiosk, a combined ordering apparatus, vending device, etc.).

Preferably, payment of the tax/duty is required before the product will be released/delivered.

5 Where goods are ordered across a state or country border, tax/duty can be levied appropriately e.g. tax/duty may be levied if the product is to be imported into a state/country, according to the amount of tax/duty that the importing state/country would normally apply. And any
10 tax/duty the exporting state/country may apply i.e. according to the location of product, where product is to be delivered, etc.

From a further aspect the present invention provides a delivery device, comprising means for storing product to be
15 vended, input means by which a user may select or identify product, and means for providing information on tax or duty applicable in the geographic location where the product is located, and means for adjusting the sales price of products offered in accordance with the tax or duty
20 information for that locality.

The delivery device may be connected to a communications network, such as the Internet, or the like.

In the aspects of the invention discussed above the means for providing information on tax or duty is
25 preferably a database which the ordering and/or delivery apparatus has access to. The database may be stored within the ordering/delivery apparatus itself or may be available from a host over a communications network.

Preferably, the database is updateable to change the
30 rate of the tax or duty, and is preferably updateable from a host processor or may also be updateable locally at the apparatus location.

An alternative is to utilise tax/duty information available over the Internet (e.g. from Government/business
35 websites), and to access this information on-line to add the appropriate tax/duty to the product or to maintain a

database of leviable tax/duty.

Preferably, the ordering apparatus may be only of any type discussed in the applicant's earlier patent applications referenced above.

5 From a further aspect the present invention provides a method of applying tax or duty in remote retailing of products, comprising the steps of storing information on tax or duty and enabling access by an ordering apparatus to that information, and adjusting the sales price of products
10 offered for order at the ordering apparatus in accordance with the tax or duty information; relating to the location of the products.

Preferably, the method also includes the step of only enabling sale or order of product when tax or duty has been
15 applied.

From yet a further aspect, the present invention provides a product ordering apparatus, including a control means for controlling ordering of products, services, input means by which a user may select product, and payment
20 processing means for processing payment by a user by a separate and secure payment processing network, the payment processing means including an input means for inputting secure user account information, and means for enabling or disabling an order on processing of a user payment via the
25 separate network.

The separate network may be an EFT or the like type payment processing network. The advantage of using a secure, separate network for processing payments is that the chances of fraud or theft are reduced.

30 The apparatus preferably includes a communication means for connection to a communications network such as the Internet, for example. Via the communications network goods/services can be ordered over the network but there is no need for payment to be made over the network, as payment
35 is made by the separate, secure network. The apparatus preferably controls whether or not product order is placed,

depending upon whether the payment has been positively processed by the separate network. The apparatus thus controls the ordering of the goods/services. The payment to the service/goods provider will be made separately by the owner of the apparatus, for example.

Preferably, the input means is a card reader or the like for reading credit card details, bankcard details, etc. An interface is provided between the payment processing network and the ordering apparatus, and is arranged to either enable or disable an order over the communications network or locally at the apparatus depending upon the result of the payment processing.

From a further aspect, the present invention provides a method of payment processing for products ordered over a communications network such as the Internet, comprising the steps of requesting account information from a user of the network and then processing a payment using the account information and using a separate, secure network, and enabling the ordering of products over the communications network depending on the result of the payment processing via the separate secure payment processing network.

The present invention allows a user, for example, to order goods on a network such as the Internet, but pay for the goods using a separate network such as EFT. Conventionally, the purchase of goods over the net requires details of a credit card or other user identification details to be transmitted over the net. With the present invention, a peripheral device is provided which enables a user to swipe a credit card, bank card or the like and obtain payment approval over a separate, secure, payment network, such as EFT. Software interface on the PC between the network and the secure payment transaction device, provides a transaction approved signal or number to the Internet or other network, confirming the transaction has been approved so that the product can be provided.

In the present invention, two separate networks are being accessed, one for obtaining a product and the other for obtaining payment approval. The software interface effectively interfaces between the two networks, to confirm
5 that a transaction has been approved, to the product providing network.

Features and advantages of the present invention will become apparent from the following description of embodiments thereof, by way of example only, with reference
10 to the accompanying drawings, in which:

Figure 1 is a schematic block diagram of an ordering apparatus in accordance with an embodiment of the present invention, shown connected in a network within a system in accordance with an embodiment of the present invention;

15 Figure 2 is a schematic diagram of an ordering apparatus illustrating various components;

Figure 3 is a flow diagram showing various operations of the apparatus;

Figure 4 schematically illustrates a payment processing system and a method in accordance with the
20 present invention;

Figure 5 is a block diagram of architecture of the apparatus of Figure 1.

Referring to Figure 1, a "one stop shop" remote
25 ordering device 100 is illustrated schematically in block form. The device is arranged to enable a user to purchase a product which may be vended on site or which may be ordered from a host 101 to which the device 101 is connectable by a communications 102 (which may be a
30 telephone connection, for example, a dedicated line, or other type of network connection, such as the Internet), for later delivery. The device also enables the user to enter and purchase information or goods (eg from a connection 105 to the Internet 106) and is operable without
35 cash. Instead the users credit may be checked by connection 104 to a bank network 103 (eg EFT).

Host 101 and remote ordering device 100 together comprise a remote ordering/vending system.

The device may be positioned at any convenient location, in a store, an office, an office foyer, a factory, a shopping centre, on a street corner, for example, to enable multiple users access to the automated "one stop shop" facility offered by the device and system.

The remote ordering device 100 includes a control means 110, which comprises a computer for controlling local operation of the device. The computer includes appropriate software for controlling the device. The device 100 further comprises a card reader 111 for identifying a user by means of magnetic card swipe and for use for obtaining account details for a payment processing transaction; a data entry means 112, which may comprise any means for entering data, such as a keypad, audio interface for digitising voice, a printer 113; a video display 114 (which in this embodiment is a touch-screen and therefore also operates as a data entry means 112); a database 115, which may contain product information, information on users etc., (in this embodiment the database 115 is in memory in the device 100, and will in fact be stored in the computers memory where the control means 110 comprises a computer, but the database 115 or part of the database, such as user information, for example, may be stored off-site, at the host device 101, for example, and the device 100 may have access to the database, with only an amount of the database that is required for immediate use of the device 100 being maintained on site); a storage and dispensing means 116 for storing and dispensing product locally on site; a product identification means 117 arranged to identify an article so that a product associated with the article can be determined. The article may be a bar code, magnetic card, an object, a returned product etc.; and a communications means 118 for interfacing with communications connection to the host 101, bank network 104, Internet 106 and any other

required connection.

Alternative embodiments of the device are arranged to dispense products from storage chambers or storage racks into a small product outlet bin.

5 Other devices 200, 300, 400 may be connected in the system to the host 101. These devices may be the same and offer the same functions as the device 100 or may offer varying functions. For example they may offer different types of products. One or more devices may not offer a
10 vending facility, but will offer an electronic ordering facility.

The device may in one embodiment be a simple PC based device which does not provide a vending facility, and allows a user to order services/goods over the Internet,
15 for example, from the host or from any other retail site available over the Internet.

Figure 2 is a front view of a device in accordance with figure 1, illustrating the hardware configuration. Preferably, the hardware comprises the following
20 components, reference numerals included in brackets indicate how the components relate to functional blocks of figure 1.

A magnetic card reader 210a (card reader 111) is provided for user identification. Note that a smart card
25 reader or the like may be provided in the alternative or in addition to the card reader 210A. A VDU (visual display unit) 210 (display 114), is provided to provide information to the user relating to operation of the device. In the preferred embodiment, a colour monitor 210 has a touch-
30 screen facility so that the data entry means 112 also comprises a touch-screen input. This facilitates interaction with the customer. A customised pin pad 208 and interface buttons 208a are also provided in the illustrated embodiment, but all the functionality of the
35 pin pad 208 and button 208A may be replaced by the touch-screen 210 in other embodiments and the pin pad 208 and

buttons 208a may be dispensed with.

Storage means are provided in the form of compartments 201 (116), each having a separately lockable door (116). It will be appreciated that the storage means could have many other configurations (see applicants earlier PCT application PCT/AU93/00416). In this embodiment each compartment 201 door includes a latch which is controllable by the control means 110 to release the door so that it can be opened so that a user can take a product stored therein or replace a returned product in the compartment and then shut the door. An appropriate mechanism for retaining and opening the doors is described in PCT/AU93/00416, and will not be described any further here. Further, other types of storage means may be provided than compartments with doors, although these are the preferred storage means. For example, a product may be delivered by way of a chute (see earlier PCT application PCT/AU93/00416) from a stack of products. The device also mounts a computer module 220 (control means 110). The computer module 220 is inside the cabinet and inaccessible to the user except via the user input means. Components of the computer module 220 are schematically illustrated. A person skilled in the art will be able to realise an appropriate configuration of the computer module 220 components from this description. Computer module 220 comprises an INTEL based "pentium" processor 221; a 33,300 baud external modem 222 (communication means 118) for communication with the host device 300; 420 to 2200 MB hard disc drive 223, 3.5 inch floppy diskette drive and CDROM 224 and 4 to 64 megabyte of RAM 225, constituting a memory for the computer 220. A sound card 226 for the reproduction of audio files is provided. A suitable audio means is provided to reproduce sound including a speaker (not shown in the drawing). A video capability such as MPEG or quicktime for video images is also provided. An input and output controller card 227 is provided for receiving signals indicative of products

being removed from and placed in the compartments 201 (disclosure of detectors for detecting the opening of a compartment door and the placing of a product therein or removal of a product therefrom are disclosed in the above-mentioned PCT application, which is published and incorporated herein by reference and no further description will be given herein). The input and output controller card 227 detects whether a product is returned or removed from a compartment and provides appropriate signals to the processor 221. A receipt printer 228 (221) is also provided for printing user receipts.

The keypad 208, 208A, may be any convenient type of keypad which will enable a user to carry out operation of the device in accordance with the following description. Generally, it will comprise numeric keys 0 to 9, scroll keys, to enable scrolling of a display appearing on the screen 210 and selection keys 208A to make a selection of a particular item appearing on the screen next to the particular key 208A. As discussed above, where a touch-screen interface is provided, as it is in the preferred embodiment, some keys may not be necessary or the keyboard may even be dispensed with entirely.

A bar code scanner 229 is also provided for scanning bar codes to identify products, (product identification means 117).

It will be appreciated that much of the control of the device will be implemented in software, for control of operation of the hardware of the device in accordance with this embodiment. A detailed description of the software configuration is not necessary. The functionality of this device may be software implemented in any number of ways, using standard software tools available to the skilled software engineer. This description describes functional requirements for the device and is sufficient to enable a skilled person to implement appropriate software.

The device described with reference to Figures 1 and 2 has many features of similar devices disclosed in applicant's earlier patent application PCT/AU97/00058. In accordance with the present invention, however, there have
5 been some additions and modifications as follows.

A security identification means 119 is provided to obtain security information from a user of the device, which will be used either to enable or disable an order. As discussed in the preamble of the specification there are
10 a number of products which it is essential to restrict distribution of and only to limit to persons who are legally entitled to obtain and use the goods/services. Examples, of course, are liquor and tobacco. The security identification means requires the provision of security
15 information and may include a card reader for reading details from a driving license, for example, so as to adequately identify the user and determine characteristics of the user such as the user's age, for example. Once the user's age is known, and once the product that the user
20 requires is known, the control means 110 can then make a judgement whether the user is old enough to be provided with the product. If the user is not old enough, then ordering of the product will not be enabled.

Other characteristics than age of the user may be
25 identified to enable or disable product dispensing/delivery. Preferably, the database 115 includes information on users so that when a user has been identified the information on a database can be accessed to see whether or not this user should be denied or provided
30 with a particular product. The separate security identification means for reading driving licenses or the like 119, may not be needed where a database of information on the users is kept, as a credit card or bankcard reader 111 may be sufficient to identify the user. The user's
35 age, other characteristics, may then be obtained from the database and product ordering controlled accordingly.

The security identification feature is particularly effective for controlling the ordering and delivery of products over the Internet, where before there has previously been little or no effective security for controlling the product delivery. The apparatus in accordance with the present invention acts as an intelligent delivery device, which can determine whether or not any user is entitled to receive a particular product.

Where a vending facility is also provided, as it is in the case of the described embodiment, the security identification means is useful in determining whether or not a particular product should be vended to a particular person.

A database containing security information may not be kept and all the security information may be obtained from an ID means (such as a driving license) scanned by the security identification means 119. Any person with the required ID means could then access the device, order goods over the network (Internet), etc.

The security identification feature may also be applied to a stand-alone vending device to enable/disable product delivery (i.e. by "stand-alone" is meant a device not connected to a network).

As also discussed in the preamble, another problem with presently available automated vending systems and in particular for commerce carried out over communications networks such as the Internet, there is the possibility of avoidance of tax or duty when the electronic ordering takes place across state and/or country borders. In this embodiment of the invention, the database 115 includes a database on tax and duty information for the particular locality where the device 100 is installed. The amount of tax and duty for the particular locality is added by the control means to the pricing of the particular products which are able to be ordered or vended via the machine. Once a product has been ordered over the Internet, for

example, the control means will add the appropriate amount of tax and duty before payment is processed via the secure payment processing network 104. The owner of the system can then pay the appropriate tax and duty on products
5 ordered, to the administration. Alternatively, duty may be calculated and charged (and payment made at the delivery location. The ordering apparatus may, as discussed above, comprise a PC or kiosk which may not be at the location where the product is. The location of the product will be
10 advised to the user. Where payment is made at the kiosk or PC or other type of ordering apparatus, the amount of tax or duty excised will correspond to the tax or duty appropriate for the location where the product is held and/or to be delivered, to ensure the appropriate duty is
15 levied.

The database can be updated at regular intervals over the communications network from the host, to take into account changes in the tax and duty information.

In an alternative embodiment the database 115 may be
20 maintained at the host and the apparatus 100 would obtain the required information on-line by communicating with the host 101. Alternatively, duty information may be obtained from a service provide or webpage and used to update the database or on line to calculate amount payable.

25 Again, this feature has particular application for products to be ordered over the Internet. It prevents the possibility of tax avoidance by providing a controlled outlet for goods ordered over the Internet which is operable to ensure the appropriate amount of tax and duty
30 is added to the price of products ordered via the device.

Another aspect of the present invention, is a method of payment of goods ordered over the Internet via a separate payment processing network, the separate payment processing network providing security of payment and
35 account details.

Referring to Figure 4, a payment processing method in accordance with an embodiment of the invention is illustrated. The apparatus includes a card reader 111 for reading credit card, smartcard or bankcard details. The architecture of the device (Figure 5) also includes payment authorisation and processing software, which interfaces with the card reader and also interfaces with a payment processing module 120 which is arranged to carry out a payment approval transaction or payment transaction via the secure payment processing network. The payment processing module 120 is in effect a peripheral of the device 100 and can provide all the bank security, etc, normally required by secure payment processing networks, such as EFT. For example, the payment processing module may be commissioned by an account acquirer such as a bank and may include security information, encryption, etc. The payment authorisation processing software in the device 100 interfaces with the device to either enable or disable ordering and/or delivery of goods depending on the result of the payment processing transaction. Again, this feature particularly suits the payment of goods/services ordered over relatively insecure communications networks such as the Internet 106. At present, users are generally required to give their credit card details on the Internet and this can result in theft and fraud.

In operation, a user 500 accesses the machine 100 and selects goods/services, which may be selected and ordered over the Internet 106 or over other communications networks. He is then required to make payment via the card reader 111 and payment processing module 120. The payment processing module makes a local phone call to obtain approval or cause the transaction to occur and funds are collected from the user's bank 100 (or collected at a later date if the transaction is not real time). The funds are passed on to the host 101 from whence they will be used to settle with a vendor or merchant providing the goods 502.

If the merchant is on the Internet the merchant may have a web server 503 to which the apparatus 100 has access.

An example of operation of the device will now be described generally with reference to figure 3.

5 The control means 110 is adapted to control the display means 114 to produce a number of screens, depending upon user operation of the device 100. As an initial step, an "introduction screen" 801 is displayed by display means 114. The introduction screen may give information to the
10 user as to how to access the device, e.g., where to place his identification means in order to proceed with a transaction.

After reviewing the introduction screen 801, the user proceeds to step 802 and inserts his magnetic card into
15 card reader 210A, to enable the device to identify him.

Where a separate security identification means 119 is provided, the user may be requested to provide security identification, such as by having the means 119 scan a driving license, for example. Alternatively, information
20 from the magnetic card reader may be sufficient together with information stored on the user in the database 115 to provide the required security information.

After the user has been identified 803, the control means 110 controls the display to display a "main menu"
25 804. This may comprise a single screen or, alternatively, a number of screens through which the user may scroll, providing the user with a number of choices of goods/services available for order, and may indicate whether goods are "on-site" in storage locations 201 or
30 only available from remote site. Alternatively, this indication may not be given until later on in operation of the device. The display means may provide high definition graphical images of catalogue products (depending on software).

35 An example of electronic catalogue menus are described in applicant's previously applications and no further

description will be given here.

5 In the next step 805, the user selects the product he requires (either goods/services or both) by actuation of the input means 112 (which is a touch-screen in the preferred embodiment). Alternatively, the user enters a card and/or PIN number unique order number to reference a previously placed order where stock may be reserved and is being held for the user for a specified time period.

10 The control means 110 then makes a decision, from the security information available for the user, and from knowledge of the product, whether the particular product that has been selected should be supplied to the user, step 900). If the user should not be supplied with the product, if he is under age, for example, then the process is
15 referred back to step 805 and the user is given a chance to select an alternative product. If the security information is adequate for the product to be provided to the user, the process proceeds onto the payment processing step 901. If an order has been placed using a PC attached to the
20 Internet and recorded and communicated to the device, where the order is prepaid or where payment is authorised, the payment processing step is avoided. Whether the product is purchased over the Internet (or other communications network) or is vended locally at the device the payment
25 processing transaction is the same, by way of the secure network described above. Once payment approval has been received the control means makes determination as to whether the product is available locally or remotely, step 806.

30 If the product is available locally, in the next step 807 the product is dispensed from one of the storage locations 201, the control unit operating a latch mechanism to the particular storage location 201 to enable the user to open the specified door or to access the delivery bin
35 where products are dispensed from the storage chamber within the device. The user then takes the product. A

suitable latch mechanism and configuration of the storage location is described in the earlier PCT application referred to above (PCT/AU93/00416).

5 The preferred embodiment incorporates a recycling function as well as a vending function (see earlier PCT application and also co-pending provisional application PO 4828 LODGED 6 August 1007). It enables the user to recycle complex items, such as toner cartridges for laser printers, etc. Step 808 enables a user to return a used product to
10 an appropriate storage location 201 for recycling. Damaged and unwanted goods may also be returned. This option need not be included, but is preferred. At step 809, a receipt is printed and provided through slot 228 to the user. The receipt gives details of the user transaction for his
15 information.

If the result of the decision at step 806 is that a product is not available locally, then the device may via a communications link, advise of the nearest device that has product available, then at step 810 the display requires
20 the user to indicate whether his order is confirmed. If the order is confirmed the control unit requests the order from the host device by way of communications link 102, at step 811.

Alternatively, if the product is ordered over the
25 Internet, then the order will be placed with the web server of the Internet provider.

At step 812 receipt is printed for the user through slot 211, giving details of the delivery.

Details of user account transactions are periodically
30 up-loaded to the host device 101 via the communications link 102 (step 813) to assist in administration of the system (814).

The device may include many other features as already previously described in applicant's earlier applications,
35 and no further description will be given here.

Figure 5 discloses an example architecture for the

device. The architecture includes payment authorisation and processing software 600, which has been described above. The architecture also includes OLE automation which utilises Microsoft® message passing standard facilitates non-call module removal and replacement. It also includes a user interface which has already been somewhat described above and is described in previous applications, controlling interfacing with the user. The software architecture allows for multiple user interfaces e.g. a consumer user interface is the default, however, a restockist user interface may appear when a restockist enters his card, a technician interface may appear when the technician card is inserted. A data manager performs all user interface database operations, including interface of security information with the control means 110. An event manager controls processes within the device facilitates changes to process sequences by using a state-transition table. The shopping basket service architecture maintains a customer selected products requests card authorisation, prints receipts and requests that "take now" (vended on site) items be dispensed from the storage and dispensing means 116. The device manager controls interaction with the apparatus peripherals, e.g. the card reader and door sensors and facilitates peripheral removal and replacement. The communication manager connects the apparatus to the host and downloads data from the host to the device and also uploads data from the host to the device. The watch dog monitors the operation of the apparatus and intercepts software, performs error housekeeping, gathers error information and re-boots the system when required.

Although the present invention has been described in relation to a complex delivery apparatus which also includes a vending function, it will be appreciated that a PC based apparatus without a vending function could still incorporate features of the present invention. The present invention is not limited to a device which must also

incorporate a vending function. Applicants of earlier Application PCT/AU97/00058 discloses a retailing system which incorporates many different device types, such as kiosks, PC-based devices having access to the network via a local area network, etc. Any of these types of devices may incorporate features of the present invention.

The software system is structured such that there is an API (Application Programmable Interface) between the user interface and the OLE Automation layer. This allows for third party development of user interface software for vending machines and kiosks, whilst retaining the same program code for payment processing, hardware device control, communications, shopping basket, etc. Similarly each of the modules identified can be modified in their own right (e.g., device manager to support alternative hardware devices, or Communications Manager to support additional alternative communications methods) without the need to modify or re-test the other functional modules within the system. The defined structure of each operating part of the vending machine or kiosk or PC based software even allows for each software module to be written in a different operating language, without affecting operation of other parts of the system. This allows developers of ordering software to create their own shopping basket on a Web server and allow the transaction amount to be passed to the payment processing module for authorisation and the payment processing module can request the user to insert their credit card into the card reader which is controlled by the device manager which reads the credit card information for the payment processing module. All activities are controlled by the event manager with all the information controlled by the data manager and all user interaction controlled through the user interface.

The embodiments of the present invention may be utilised to enable ordering of product from web pages on the Internet, enabling security to be applied, tax/duty for

the location of delivery of product, and secure payment.

Variations and/or modifications may be made to the invention as shown in the specific embodiments without departing from the spirit or scope of the invention as
5 broadly described. The present embodiments are, therefore, to be considered in all respects as illustrated and not restrictive.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A product ordering apparatus, including a control means for controlling ordering of products, input means by which a user may select product, and security
5 identification means for obtaining security related information from a user and means for enabling or disabling delivery of products depending on the security information.

2. An apparatus in accordance with claim 1, wherein the security identification means includes a sensor means
10 for reading information from a bar code or a driver's licence or a credit card or the like.

3. An apparatus in accordance with claim 1 or claim 2, further including a database for storing security information on users of the apparatus, the control means
15 being arranged to access the database for security information for a user who has been identified by the apparatus.

4. A product ordering apparatus, comprising a control means for controlling ordering of product, input
20 means by which a user may select product, means for providing information on tax or duty applicable in the geographic location where the product is located/to be delivered and means for adjusting the sales price of products in accordance with the tax or duty information for
25 the locality.

5. An apparatus in accordance with claim 4, wherein the tax and duty information is stored in a database and means are provided for updating the database.

6. An apparatus in accordance with claim 5, wherein
30 the database is maintained in a host device and the apparatus is arranged to access the host to obtain the tax duty information.

7. An apparatus in accordance with claim 5, wherein the database is maintained in the apparatus and is updated
35 from a remote location.

8. A method of applying tax or duty in remote retailing of products, comprising the steps of storing information on tax or duty and enabling access by the apparatus to that information, and adjusting the sales price of products offered for order in accordance with the tax or duty information.

9. A product ordering apparatus, including a control means for controlling ordering of products, input means by which a user may select a product, and payment processing means for processing payment by a user by a separate and secure payment processing network, the payment processing means including an input means for inputting secure user account information, and means for enabling or disabling an order on processing of a user payment via the separate network.

10. A method of payment processing for products ordered over a communications network such as the Internet network, comprising the steps of requesting account information from a user of the network and then processing the payment using the account information and using a separate, secure network, and enabling the ordering of products over the communications network depending on the result of the payment processing via the separate secure payment processing network.

11. A product ordering apparatus, including a control means for controlling ordering of products over a computer network, such as the Internet, input means by which a user may select a product, and payment of processing means for processing payment by a user by a separate and secure payment processing network, the payment processing means including an input means for inputting secure user account information, and means for enabling or disabling an order on processing of a user payment via the separate network, whereby a user may order product from a network, such as the Internet, and pay via the separate, secure network.

12. A product ordering apparatus in accordance with any one of claims 1 to 3, wherein the product ordering apparatus is a vending machine.

5 13. A product ordering apparatus in accordance with any one of claims 1 to 3 and 12, wherein the product apparatus includes means enabling ordering of product over a computer network, such as the Internet.

10 14. A product ordering system, including product ordering apparatus in accordance with any one of claims 1 to 7, 9 and 11 to 13, connected in a network to form a retailing system.

15. A product ordering system in accordance with claim 14, including a host controller for controlling the product ordering apparatus.

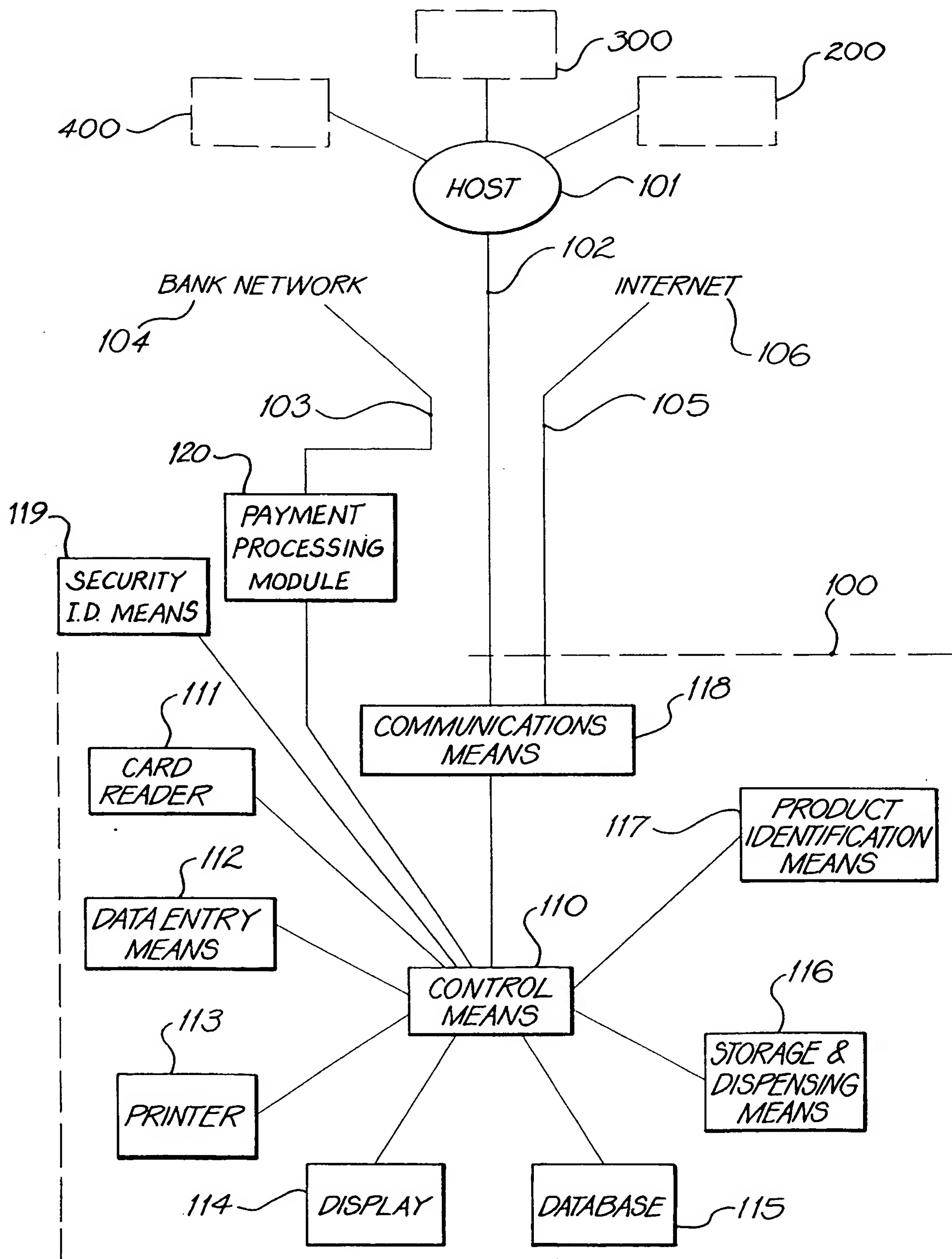


FIG. 1

SUBSTITUTE SHEET (Rule 26) (RO/AU)

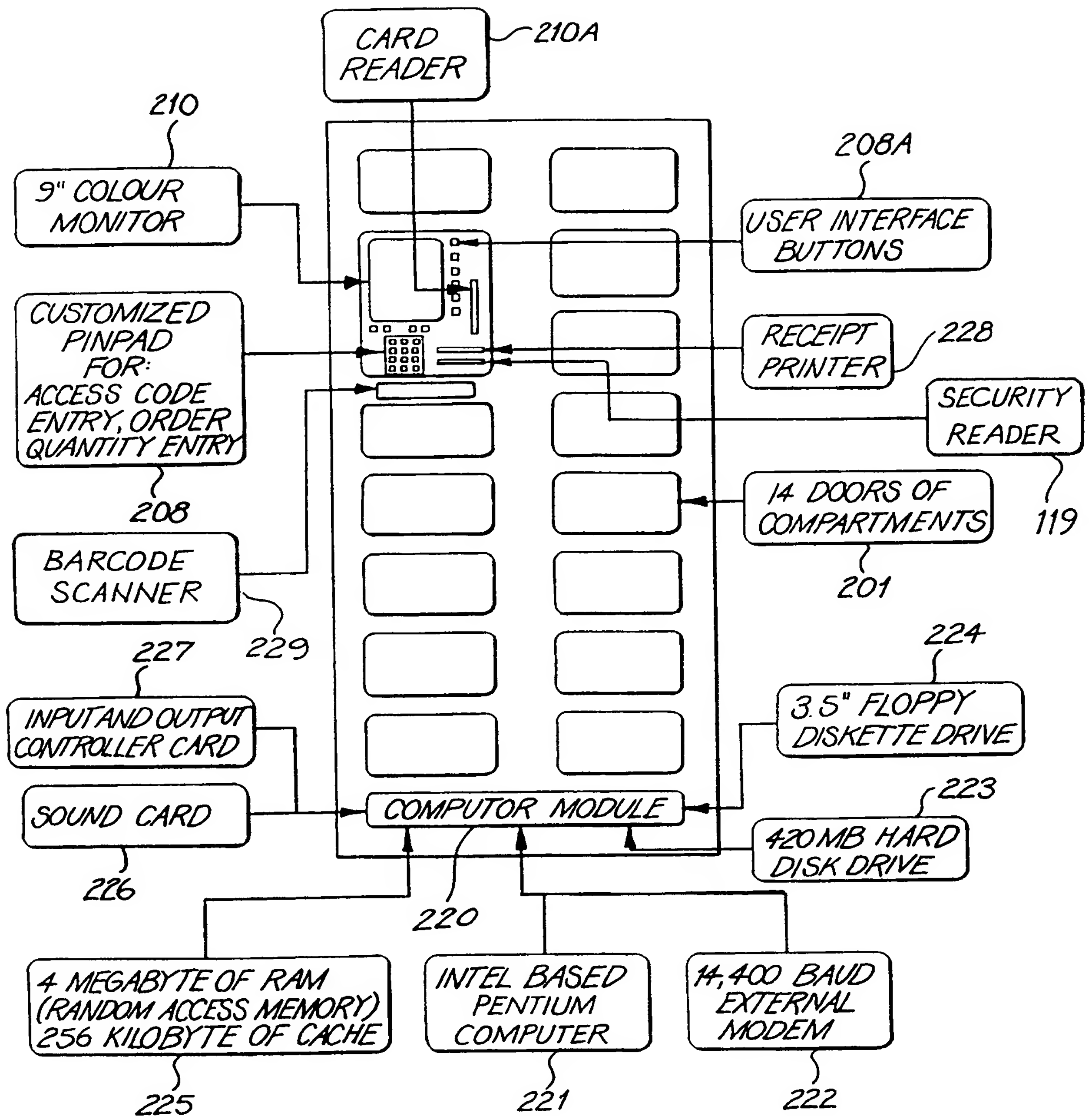


FIG. 2

Substitute Sheet
(Rule 26) RO/AU

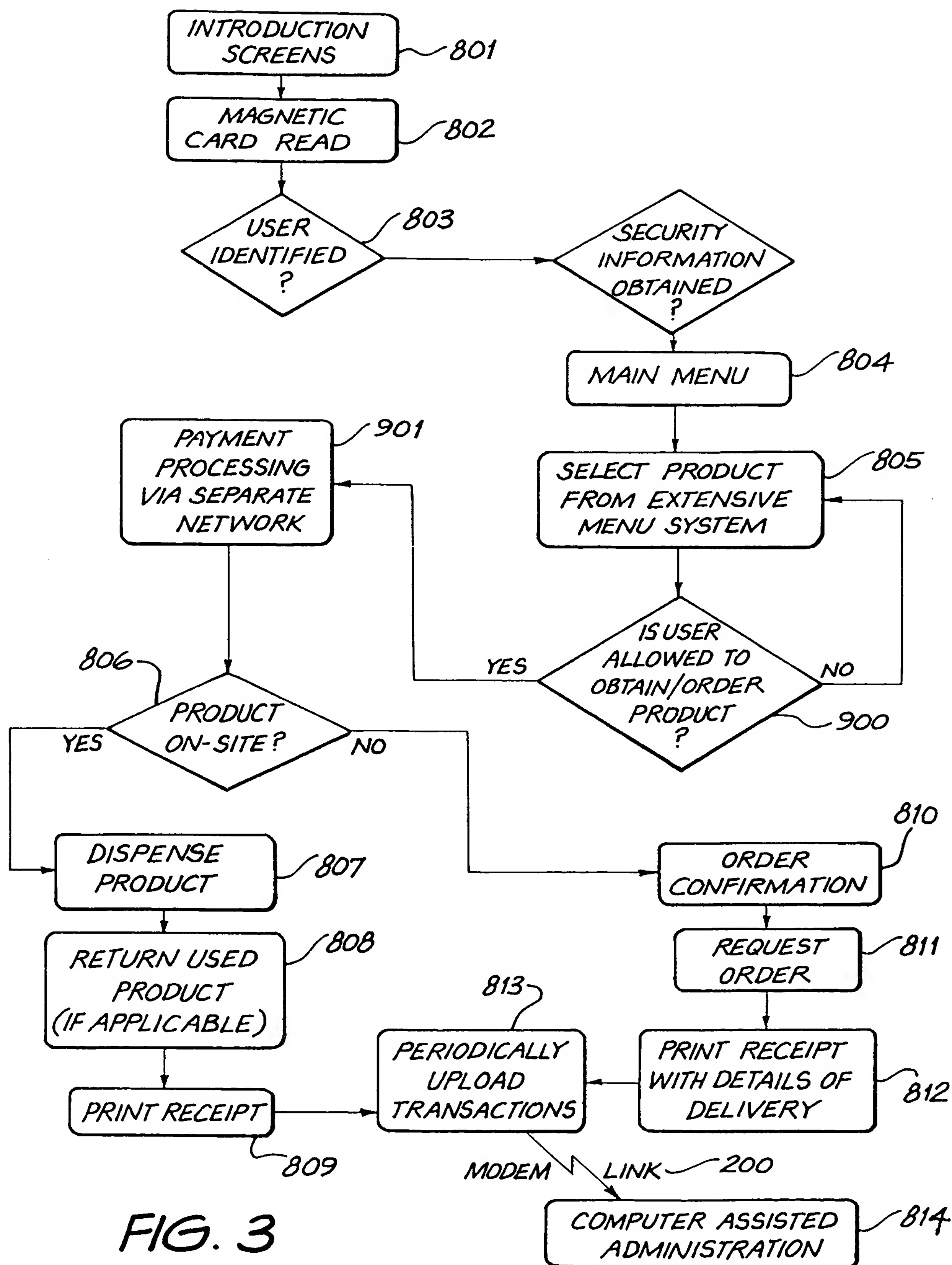
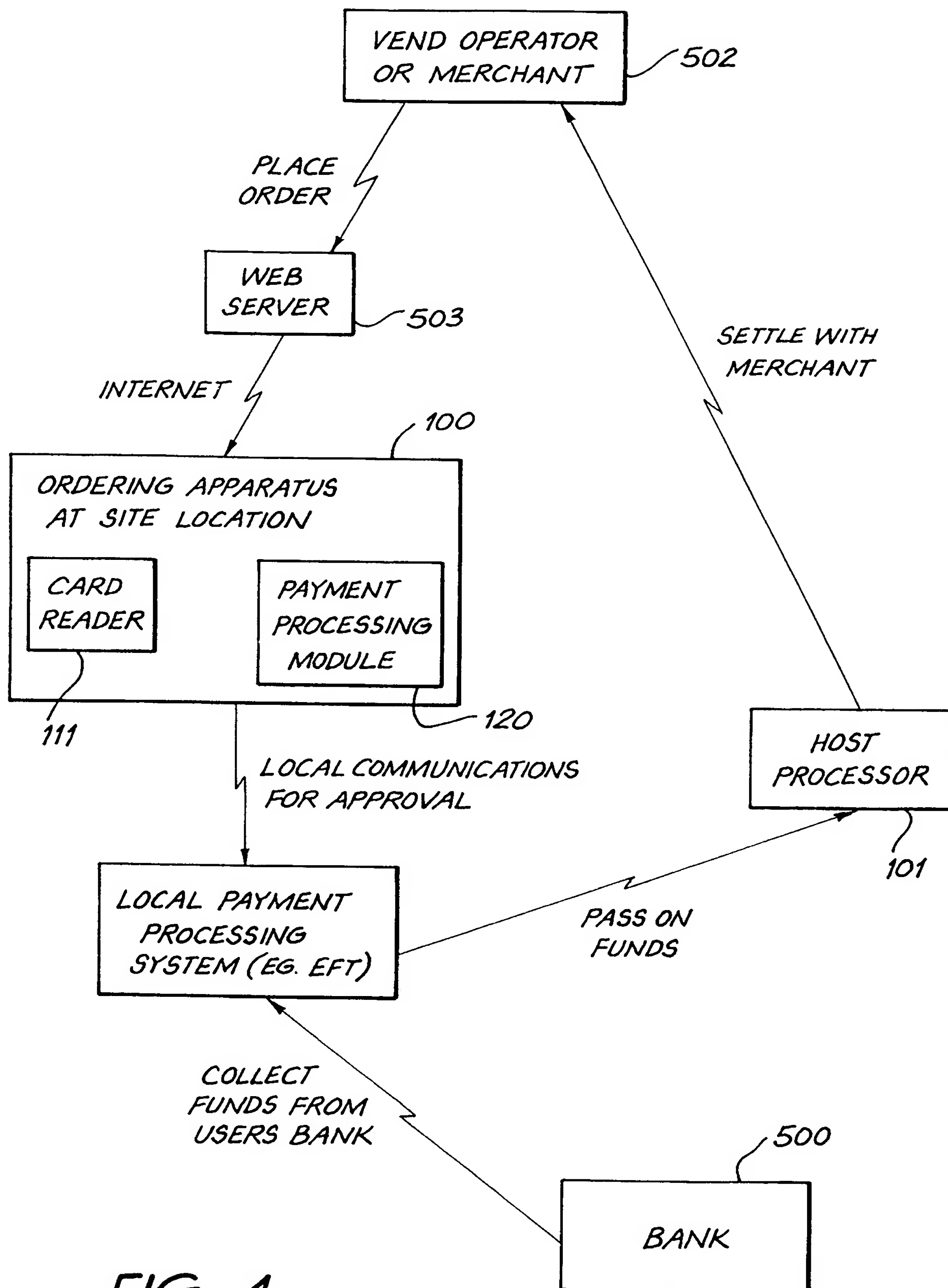


FIG. 3

**FIG. 4**

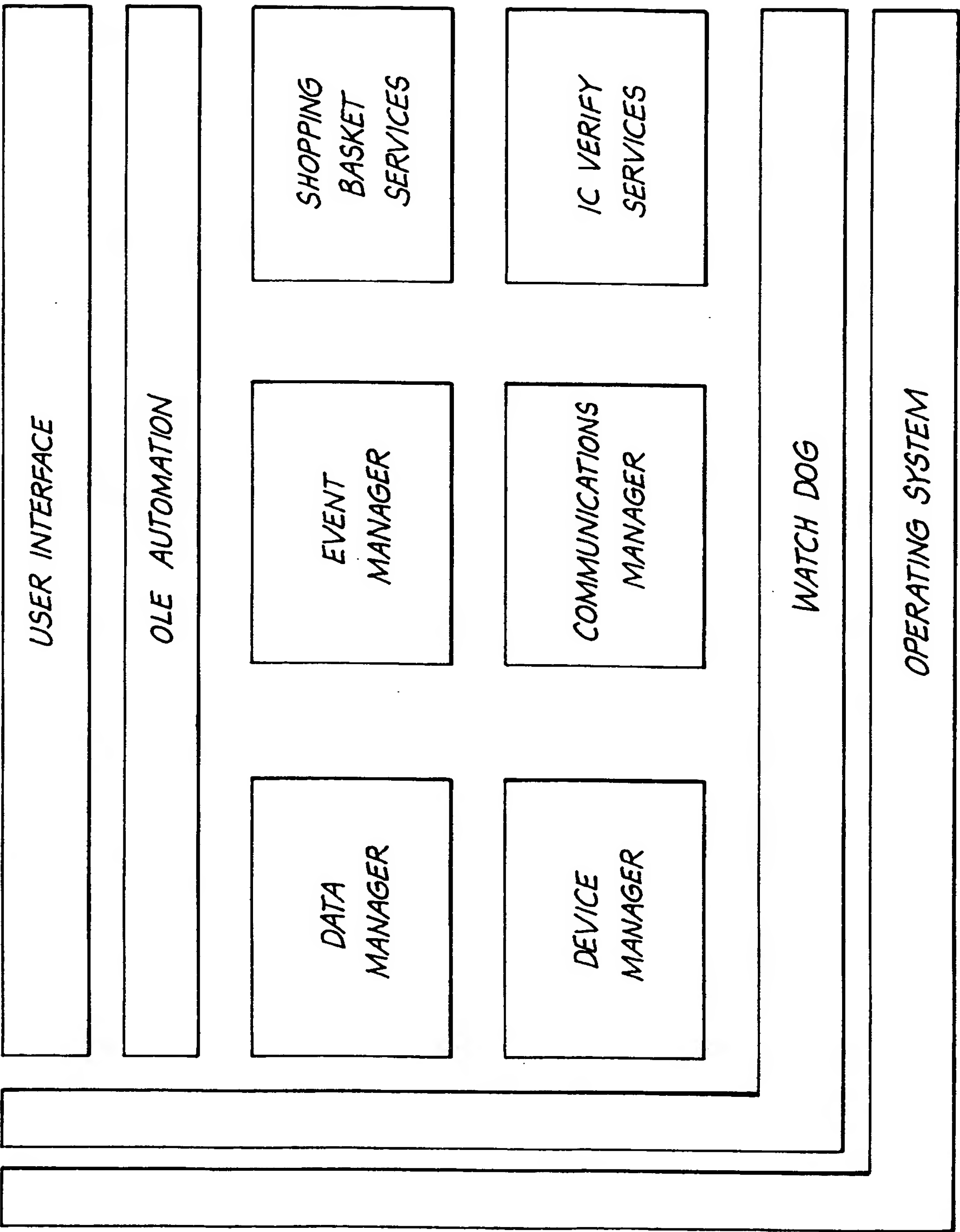


FIG. 5

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU 98/00655

A. CLASSIFICATION OF SUBJECT MATTER					
Int Cl ⁶ : G06F 153:00					
According to International Patent Classification (IPC) or to both national classification and IPC					
B. FIELDS SEARCHED					
Minimum documentation searched (classification system followed by classification symbols) G06F 153:00, 15/24, G07F 7/08					
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched					
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) WPAT					
C. DOCUMENTS CONSIDERED TO BE RELEVANT					
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.			
X	WO 97/28510 A1 (IMAGING TECHNOLOGIES PTY LTD) 7 August 1997 whole document page 11 lines 19/22	1-3, 9-15			
X	WO 92/01273 A1 (COMPUTER DETECTION SYSTEMS PTY LTD) 23 January 1992 whole document	1-3, 9-15			
X	US 5475585 A (BUSH) 12 December 1995 whole document	1-3, 9-15			
<div style="display: flex; justify-content: space-between;"> <input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex </div>					
<p>* Special categories of cited documents:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 45%; vertical-align: top;"> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </td> <td style="width: 10%; vertical-align: top; text-align: center;"> <p>"T"</p> <p>"X"</p> <p>"Y"</p> <p>"&"</p> </td> <td style="width: 45%; vertical-align: top;"> <p>later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>document member of the same patent family</p> </td> </tr> </table>			<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"T"</p> <p>"X"</p> <p>"Y"</p> <p>"&"</p>	<p>later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>document member of the same patent family</p>
<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"T"</p> <p>"X"</p> <p>"Y"</p> <p>"&"</p>	<p>later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>document member of the same patent family</p>			
Date of the actual completion of the international search 2 November 1998		Date of mailing of the international search report 11 NOV 1998			
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200 WODEN ACT 2606 AUSTRALIA Facsimile No.: (02) 6285 3929		Authorized officer R. STOPFORD Telephone No.: (02) 6283 2177			

INTERNATIONAL SEARCH REPORT

international application No.

PCT/AU 98/00655

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4947028 A (GOR OG) 7 August 1990 whole document	1/3, 9-15
X	US 4896024 A (MORELLO et al.) 23 January 1990 whole document	1-3, 9-15

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU 98/00655

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Claims 1-3, and 9-15 are directed to a product ordering apparatus having input selection means, security identification means and means for enabling or disabling product delivery based on the security information. I consider that the feature that there exists a means for enabling or disabling product delivery or ordering based on the security information as a first special technical feature.

Continued in Supplemental Box

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-3, 9-15

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU 98/00655

Continuation of Box II

Claims 4-8 are directed to a product ordering apparatus or method whereby information on the taxes and duties dependent on geographic location is stored, and this information is used to adjust the sale price of a product dependant upon these local taxes and duties for that location. I consider that the adjustment of the sale price of a product based on the taxes and duties imposed in a particular geographic location is a second special feature.

Since the above mentioned groups of claims do not share any of the special technical features identified, a "technical relationship" between the inventions, as defined in PCT Rule 13.2 does not exist. Accordingly the international application does not relate to one invention or to a single inventive concept. Consequently this report is based on the first mentioned invention only as defined in claims 1-3 and 9-15 only.

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/AU 98/00655

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member			
WO	97/28510	AU	15838/97		
WO	92/01273	GB	2244069		
US	5475585	AU	88593/91	CA	2092989
		WO	92/06438	EP	551433
US	4947028	CA	2010846		
					END OF ANNEX